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2 UTILITY PATENT APPLICATION:

4 PREPARED BY:

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7 TITLE: STRAP AND METHOD FOR UTILIZING THE STRAP

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19 PRIORITY

20 This patent claims priority based on provisional patent number 60/459,426 filed on

21 3/28/03.

22 BACKGROUND OF INVENTION

23 The invention pertains to carrying straps. More particularly it pertains to bags having
24 opposing loops and a free loop of string with a handle for joining these with a method for loading
25 bags onto a free loop.

26 FIELD OF INVENTION

27 PRIOR ART

28 GENERAL DISCUSSION OF THE INVENTION

29 As can best be seen by reference to Figure 1 the invention utilizes a handle which receives
30 one end of a loop on the left end of the handle and the other end of the loop on the right end of
31 the handle in order to provide a carrying mechanism which is better described in more detailed
32 below.

1 The length of the string is made adjustable through a variety of mechanisms, one of which
2 being the provision of multiple string lengths which may connect to the handle, through snug
3 knots on a single string, by a sliding buckle.

4 A mechanism is provided to tighten the loop and maintain this tightens once it has been
5 put in place around a load or handle to be lifted.

6 Also taught is a specialized strap which allows the weight of the handle to be properly
7 distributed to the person carrying the load and allows for the detachment of the handle from the
8 shoulder support and the re-attachment so that the support may be continuously worn by the user
9 while the handle is periodically detached.

10 Also taught is a method of utilizing the broad invention in conjunction with a number of
11 other products each of which forms a combination which is a unique invention.

12 One combination includes handcuffs in order to provide the user with handling distance
13 between the user and the person handcuffed as well as providing a mechanism for securing the
14 handcuffs and thereby the individual restrained to various stationary objects and in easily
15 releaseable fashion.

16 In another use a collection of bags having handles utilizes a looping handle in order to
17 releaseably secure the collection together so that they may be more easily carried and so they may
18 be set down without spilling even if the bags are otherwise without structural support.

19 The handles have several modifications including describing an opening through which
20 a flag may be secured and an opening through which an additional securing mechanism (such as
21 a nail) may be utilized in order to permanently or removably attach the device in the end of
22 lumber for providing a signal while the lumber is transported. This may also apply to loads other
23 than lumber such as ladders and the like.

1 In addition an alternative looping mechanism whereby a second set of ropes is attachable
2 in conjunction with the first set of ropes allows for different types of loads to be carried.

3 It is therefore one object of the invention in order to provide for a loading mechanism
4 which allows for bags to come off a rack and be individually loaded and to be grouped together
5 on a single carrying string. These carrying arms may be made to swing towards the location of
6 a basket in order to allow easier removal by the user of the combined loads.

7 These and other objects and advantages of the invention will become better understood
8 hereinafter from a consideration of the specification with reference to the accompanying
9 drawings forming part thereof, and in which like numerals correspond to parts throughout the
10 several views of the invention.

11 BRIEF DESCRIPTION OF DRAWINGS

12 For a further understanding of the nature and objects of the present invention, reference
13 should be made to the following detailed description taken in conjunction with the accompanying
14 drawings in which like parts are given like reference numerals and wherein:

15 Figure 1 is a perspective view of the handle front.

16 Figure 2 is a perspective view of the string.

17 Figure 3 is an end view from the 3-3 axis shown in Figure 1.

18 Figure 4 is perspective view of the handle from Figure 1 from the rear side.

19 Figure 5 is a dimensional view of the view shown in Figure 4.

20 Figure 6 is a dimensional view of the side of Figure 5.

21 Figure 7 is a dimensional view of the view shown in Figure 3.

22 Figure 8 is a line drawing of a modification of the preferred embodiment.

23 Figure 9 is a larger view of Figure 8

1 Figure 10 is a side view of an alternate embodiment of Figure 1.
2 Figure 11 shows an alternate embodiment of the invention.
3 Figure 12 is a view of a second alternative embodiment.
4 Figure 13 is a detail from Figure 12 through the 13-13 axis.
5 Figure 14 is a side view of Figure 12.
6 Figure 15 shows a view of a large load being held. .
7 Figure 16 shows a side view of several bags held by a modified handle.
8 Figure 17 shows a three part modified handle.
9 Figure 18 shows an alternate embodiment where the invention is used in conjunction with
10 the bags.

11 Figure 19 shows a box holder with the embodiment of Figure 18.

12 DETAILED DESCRIPTION OF THE PREFERRED EXEMPLARY EMBODIMENTS

13 Figure 1 shows a bottom view of the handle body showing that the handle 60 (comprised
14 of the body 1 and string 2) consists of a handle body 1 which is preferably curved (as shown in
15 the side view 3) defining holes 3 and 5 into which a loop string 2 shown on Figure 2 may be
16 inserted. In order to allow the string to be inserted without being cut gaps 4 and 6 are defined by
17 the body 1. Preferably the narrowest interior points 33 of the gaps 4 and 6 are smaller than the
18 diameter 34 of the string 2 (shown in Figure 2) so that the string 2 must be compressed to fit
19 within the openings 3 and 5 which are wider than the interior points 33 so that the string may re-
20 expand and does not easily fall out. The use of gaps allows for different length strings to be used.

21 The bottom of the handle defines a slot 14 so that when the hand is holding the handle
22 along the ridges, it faces upward. This slot is stationed upward and away from the pull of gravity,
23 and the end of the string which has been passed through the handles of the bags to be carried can

1 be inserted through the slot in order to half the length of the string so that a single string defines
2 at least two lengths. It may be repeatedly looped through this slot 14 to change the string length.

3 The gaps are shown as angled inward so the string may be steadily compressed as the
4 string 2 is inserted into openings 3 and 5. The gaps reopen at the openings 3 and 5 past the
5 narrowest interior points 33 to allow the string 2 to re-expand so it is not easily removed.

6 One alternation is to close the gap (as shown in Figure 4) after the string is inserted
7 through welding or glue, or with a closing clasp 36.

8 This closure way (clasp 36) in locking the movement of the string 2 to prevent the string
9 from sliding within the body, although this is not a requirement. An alternate method shown in
10 Figure 3 is to secure one end of the string with a button 37 or knot 38. This allows the string to
11 be un-looped and prevents sliding of the string.

12 Ridges 7 help the user to hold on to the handle while indentations 8, 9, 10 and 11 between
13 the ridges 7 and serve as places where the fingers of the user (not shown) may go.

14 As can best be seen by reference to Figure 3 the bottom defines a slot 14 whose purpose
15 is to receive the middle 39 of string 2 after it passes around a load (as shown in Figures 16 and
16 17). Slot 14 preferably runs along the entire length of the body 1 opposite the gaps 4 and 6. A
17 central opening 12 runs through the length of the body 1.

18 As can best be seen by reference to Figure 4 looking through the top of the invention into
19 the opening 12 through the slot 14 in the body 1. There are raised frictional edges 13 which in
20 this case are partially raised letters 15 in order to improve the grip on the side the handle 1.

21 Figure 5 is a view of an alternate to Figure 4 showing raised edges 13 on either side of the
22 slot 14.

23 Figure 6 is a perspective view of the side of Figure 5.

1 Figure 6 shows where the holes 3 and 5 and gaps 4 and 6 would be, although they cannot
2 be seen from the side in this view.

3 Figure 7 is a perspective view of the view of the handle shown in Figure 8.

4 Figure 8 is a view of a modification of the preferred embodiment. In this modification
5 a shoulder strap 16 and belt 22, connected to a swivel 17 holds a hook 20 supports a ring 18
6 through which the handle 1 and string 2 are looped to hold one or more handles 21 of a bag 42
7 with a loop 19 in the string 2. Here, the handles 21 are held by a bar 40 which receives the ends
8 41 of the string 2 with buttons 37 in this alternate view.

9 The attachment means in Figure 8 may be moved to the side of the user.

10 Figure 9 is an alternate view of an alternate embodiment to Figure 8 showing where the
11 belt 22 has been connected to the strap 16 to provide more support to the user 43. Here, the loop
12 19 is formed with the middle 39 of the string 2 through a loop 44 in the belt 22.

13 Figure 10 is a side view of an alternate embodiment of Figure 1 where the handle is
14 curved to make it easier to hold.

15 Figure 11 shows an alternate embodiment of the invention whereby handcuffs 23 are held
16 by a loop 19 around the chain 24 of the cuffs 23. This handle body 1 may be solid with the string
17 2 permanently attached to prevent the detainee wearing the cuffs from slipping away from the
18 handle 1. The handle 1 may be held or shut into a door to secure the position of the cuffs 23. The
19 string may, where desirable, be replaced with wire or insulated wire.

20 While the string is described in a preferred embodiment, it is obvious that heavier rope
21 might be used for some industrial purposes. Strings may be replaced with straps. Straps or
22 strings 2 with buckles 50 receiving the strap through holes 51 and 52 allow the user to vary the
23 length of the string.

1 Figure 12 is a view of an alternate embodiment. This figure shows how a clasp 25 may
2 define an opening 26 (shown in Figure 13) as it slides along the string 2 to secure a load 32
3 (shown in Figure 14) held in the hoop 27 with an adjustable interior 26 defined by the string 2
4 when a larger load (such as logs as shown in Figure 14) is being carried. This embodiment also
5 shows a hand guard 28 held on posts 30 between which posts 30 is a gap 31 into which the users
6 hand is inserted. In this way, a large load is separated from the hand of the user holding the guard
7 28.

8 Figure 13 is a detail view from Figure 12 through the 13-13 axis. The interior space 45
9 of the buckle 25 is preferably approximately the same width as the two sides 2a and 2b of string
10 2.

11 Figure 14 is a view of Figure 12 which shows how a pad 29 may be placed on the hand
12 guard 28. Screws 46 hold the hand guard 28 to the posts 30 which here are a permanent part of
13 the body 1 in this embodiment.

14 Figure 15 shows a view of a large load held by the invention using a longer loop here
15 made of two loops first loop 2 and second loop 27 joined at the loop 19 (on string around the
16 other) which goes from the handle 1, around a large load 32 at the loop 19 and back to the handle
17 1 where the second string 47 fits within the slot 14.

18 Figure 16 shows a side view of several bags 42 held by a modified handle. This handle
19 has a top handle 1 and a bottom handle 1a to lower the height at which the bags 42 are held.

20 Figure 17 shows a three part modified handle. To carry the large load 100, a left and right
21 elbow 99 and 98 respectively, are attached by a line 97 tightened by a buckle 96 to allow the
22 elbows 99 and 98 to be kept at an even spacing and tightly held to the sides 95 of the load 100.
23 Each elbow is attached to a handle body 1 by a string 2.

1 Figure 18 shows an alternate embodiment where the invention is used in conjunction with
2 the bags 42, preferably plastic bags, coming off of the first rack 48 having an arm 49. This first
3 rack is a prior art type of rack which provides for the loading of one plastic bag at a time which
4 is then released by both bag handles 21.

5 The length of the arms and strings is preferably within a ½" size of one another. The arm
6 should have a length of approximately 12" (at least 8" but no more than 36").

7 In this simplest embodiment of the invention, there is a second rack 53 which comprises
8 a first rack arm 58, which arm 58 has a first front end 54 and a first rear end 55. The first front
9 end 54 comprises an extending catch 56 for receiving the middle 39 of the loop of string 2. The
10 rear end 55 comprises a support 57 for receiving at least one and preferably a plurality of handles
11 60 so that sequentially the arms 58 and 59 are supported above the surface 65 by a post 66 and
12 each succeeding handle 60 may be accessed and string 2 may be pulled out and placed on the
13 catch 56.

14 These bags are removed from the first rack 48 and they are inserted over the first front end
15 54 and towards the rear 55 until the entire rack arm 58 on is fully loaded with bags. Thereafter
16 the handle body 1 may be brought forward pulling the handles 21 together and the body 1 is
17 inserted through the middle 39 of the loop formed by the string simultaneously removing the
18 string middle 39 from the catch 56 and pulled tight in order to close the bags 43 and allow them
19 to be lifted together.

20 In the preferred embodiment as the arm 58 is loaded, the post 66 may be rotated around
21 a bearing 64 so that the second arm 59 of identical design is rotated in place and may be loaded
22 with a second plurality of bags while the handle 60 is removed from the first rack arm 58.

23 In order to provide for a plurality of handles and strings they may be loaded underneath

1 each other with the string of the following handle up. The middle handle carrying portion
2 (support 57) filled here with 3 handles 60. The support 57 may have the handles 60 sequentially
3 numbered with numbers 61, so that the handles may be counted as they are removed. They may
4 be removed over a counter bar 62 triggering a counter (not shown) in order to allow the number
5 of handles used to be counted for billing purposes.

6 In order to allow the system to be efficiently used, a flag 62 is provided so the flag 62 may
7 be raised like a mail box flag in order to indicate that the loader is to be utilized for the bags.

8 The arms may be folded upward or downward at hinges 63 at the back of these loading
9 arms in order to have them out of the way unless they are in use.

10 Figure 19 shows a box 68 in the embodiment shown in Figure 20 which box 68 has a lid
11 67. The support receives the box as shown in Figure 19 and the lid 67 is opened. Before the user
12 is checked out, the box 68 is charged and any left over handles are put with the box 68 into the
13 last plastic bag. With the user's order.

14 Because many varying and different embodiments may be made within the scope of the
15 inventive concept herein taught and because many modifications may be made in the
16 embodiment(s) herein detailed in accordance with the descriptive requirements of the law, it is
17 to be understood that the details herein are to be interpreted as illustrative and not in a limiting
18 sense.

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